

REMARKS

Claims 1-26 are currently pending. Claims 1 and 22 are amended. No new matter is presented. The above amendments and the following remarks are considered by Applicants to overcome each rejection raised by the Examiner and to place the application in condition for allowance. An early Notice of Allowance is therefore requested.

The drawings are objected to for failing to show every feature recited in the claims. Specifically, the Examiner indicates that the feature of “diodes separated alike the nozzle pitch of the comb by a multiple of the well’s pitch, the unit fitting exactly into the holder of the dispensing comb” is not illustrated in the drawings. Claim 22 is amended to clarify the feature of the claimed invention. In view of the amendments to claim 22, Applicants request that the objection to the drawings be withdrawn.

Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that the feature of the alignment unit having two diodes, the unit fitting exactly into the holder of the dispensing comb is not disclosed in the specification. Claim 22 is amended to overcome the cited rejection. Thus, Applicants request the withdrawal of the rejection of claim 22 under 35 U.S.C. 112, first paragraph.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph. Claims 1 and 22 are amended to more clearly recite the features of the claimed invention. No new matter is presented. Therefore, Applicants request the withdrawal of the rejection of claims 1-26 under 35 U.S.C. 112, second paragraph.

The Examiner rejected claims 1-5, 8, 9, 11-20, and 23-26 under 35 U.S.C. 103(a) as being anticipated by Giebeler et al. (U.S. Patent Publication 20020176801). Applicants respectfully traverse this rejection.

Giebeler discloses dispensing a row of wells of the microplate within a fluidics module, then moving these wells by a transport module to an analysis module to detect the amount of luminescence light that is emitted after a defined delay time. However, even if Giebeler discloses simultaneously detecting a plurality of wells or even all wells, it is only described to extend the analysis module by providing a light from a lamp via a monochromator and then divided and distributed by a number of light guiding fibers to a number of wells of the microplate. The response light of the substances in the wells is then coupled to separate reading heads, which consist of optics and light guiding fibers.

However, Giebeler does not teach or suggest the use of an objective for imaging a large-area rectangular field of the microplate onto an image sensor but rather only a single well based on a detector element transmissions. Giebeler also does not teach or suggest combining simultaneous dispensing with simultaneous detection of multiple wells.

The Examiner states that Giebeler discloses the table system of the claimed invention. Applicants respectfully disagree. The table system disclosed by Giebeler is not the same as the one provided in the claimed invention. Figure 5 or the related description disclosed by Giebeler does not provide a free underside of the microplate for an optical imaging. In contrast, according to the claimed invention, a measurement unit which images a large-area rectangular field that is a substantial part of the microplate is arranged across from the dispensing unit. As a result, the luminescence of each well of the large-area rectangular field is observed before, during, and after the dispensing of the well. It is a measurement of the course of luminescence from the beginning of the chemical or biological reaction in all wells under observation. This feature is neither taught nor suggested by Giebeler.

Thus, the present invention provides an analysis of the course of luminescence light over time without any limitation to the dispense velocity. In contrast, Giebeler discloses that one or more columns per time are dispensed, then transported to the detection unit, and detects the luminescence in a defined point of time after dispensing fluid in the wells. Furthermore, all the embodiments of Giebeler do not provide a method for observing fast light emitting reactions of a reactant added to the samples in the wells or light emitting reactions of samples to which different fluids are successively applied for measuring the reaction intensity profile.

Although Giebeler discloses that the analyzer module includes top and bottom optics enabling a variety of measurement modes which also include clear bottom sample holders, Giebeler fails to teach or suggest using such sample holders to combine top dispensing with bottom measurement simultaneously with imaging of a large-area rectangular field by a camera. Furthermore, Applicants disagree with the Examiner in that that it is implicitly disclosed by Giebeler to use a controllable pump for metering the amount of liquid to be dispensed as a non-contact dispense mechanism. Giebeler intends to use a pipettor system in the form of an eyedropper that uses changes in air pressure created by squeezing or in form of a syringe that uses a positive-displacement piston (See Paragraph [0050]). In each of these approaches, each dispenser tips need one bulb or piston. Thus, these approaches of Giebeler do not teach or

suggest the use of a controllable metering pump for the whole comb as provided in the claimed invention.

It is submitted that Giebeler fails to teach or suggest all the features recited in claim 1. Specifically, Giebeler does not teach or suggest that a course of luminescence over time for each individual specimen in all wells of the large-area rectangular field is measurable while simultaneously ongoing dispensing occurs successively column by column. Also, Giebeler fails to teach or suggest a table system for moving the microplate and dispensing unit relative to one another. Therefore, Applicants request that the rejection of claims 1-5, 8, 9, 11-20, and 23-26 under 35 U.S.C. 103(a) be withdrawn.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giebeler in view of Wohlstadter et al. (U.S. Patent Publication 2004/0022677). The Examiner takes the position that the combination of the cited references teaches or suggest all the features recited in claims 21 and 22. Applicants respectfully disagree.

First, it is submitted that Wohlstadter is not prior art since it was published on February 5, 2004 which is after the filing date of the present invention July 20, 2003. In addition, Wohlstadter does not cure the deficiencies of Giebeler. Specifically, the cited references fail to teach or suggest that a course of luminescence over time for each individual specimen in all wells of the large-area rectangular field is measurable while simultaneously ongoing dispensing occurs successively column by column. Thus, it is submitted that the combination of the cited references fail to teach or suggest all the features recited in dependent claims 21 and 22. Accordingly, Applicants request the withdrawal of the rejection of claims 21 and 22 under 35 U.S.C. 103(a).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giebeler in view of Marouiss et al (U.S. Patent Publication 2001/0048899). The Examiner takes the position that the combination of Giebeler and Marouiss teach or suggest all the features of the claimed invention. Applicants respectfully disagree.

Claim 6 is dependent upon claim 1. Therefore, it is submitted that for at least the reasons mentioned above, claim 6 recites patentable subject matter. Applicants request the withdrawal of the rejection of claim 6 under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giebeler in view of Marouiss and further in view of Schick (U.S. Patent Publication 2003/0230521). Applicants

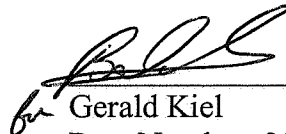
respectfully traverse the rejection of claim 7.

Claim 7 is dependent upon claim 1. Neither Marouiss or Schick cure the deficiencies of Giebeler, therefore, it is submitted that for at least the reasons mentioned above, claim 7 recites patentable subject matter. Applicants request the withdrawal of the rejection of claim 7 under 35 U.S.C. 103(a).

In view of the above amendments and remarks, Applicants request the reconsideration and allowance of the present application. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,

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